

Name \_\_\_\_\_

### From Gene to Protein

1. Given the following DNA sequence, create the complementary strand of mRNA. (transcription)

G-T-A-C-C-A-G-T-G-C-A-T

2. Given the following mRNA strand, list the 6 codons that appear.

A-U-G-U-G-C-C-A-A-A-G-A-C-G-U-U-G-A

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

3. Using the codons above, list the amino acids (in order) that create this protein. (translation) *Hint: You have to use your decoder to help.*

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

4. Given the following mRNA codons, write the corresponding tRNA anticodons.

AUG   GAA   UUC   GGC   UAG

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

5. Given the following DNA sequence, determine the amino acids that will create the final protein product. *Hint: Write out mRNA sequence and codons first!*

DNA:      TACATGGTGCATCGATTACCTATT

mRNA:    \_ \_ \_ , \_ \_ \_ , \_ \_ \_ , \_ \_ \_ , \_ \_ \_ ,  
             \_ \_ \_ , \_ \_ \_ , \_ \_ \_

amino acids:    \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
                     \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_